

Claims:

1. A composition for treating a patient suffering from a colon tumor or tumor polyps, comprising an effective amount of a retinoid receptor agonist and a permissive factor therefor.
2. The composition according to claim 1, wherein said retinoid receptor agonist is
5 retinoic acid or a derivative thereof.
3. The composition according to claim 2, wherein said permissive factor is a cdx2 molecule.
4. A host cell transfected with the vector according to claim 30.
5. A method for treating a patient suffering from a colon tumor, comprising the steps of
10 administering to said patient an effective amount of the composition according to claim 1, and observing (i) a decreased size in the colon tumor in said patient, or (ii) a lack of increase in size of said colon tumor after predetermined amount of time.
6. The method according to claim 5, wherein said composition stimulates expression of a gene selected from the group consisting of RDHL, CEACAM-1 and CEACAM-5 in said
15 patient.
7. The method according to claim 5, comprising administering to said patient the composition according to claim 2.
8. The method according to claim 5, comprising administering to said patient the composition according to claim 3.
- 20 9. A method for treating a patient suffering from colon polyps, comprising the steps of administering to said patient an effective amount of a composition comprising a retinoid receptor agonist, and observing (i) a decreased size in the colon tumor in said patient, or (ii) lack of increase in size of said colon tumor after predetermined amount of time.

10. The method according to claim 9, wherein said composition stimulates expression of a gene selected from the group consisting of RDHL, CEACAM-1 and CEACAM-5 in said patient.
11. The method according to claim 9, wherein said composition further comprises a permissive factor for said retinoid receptor agonist.
12. The method according to claim 11, wherein said permissive factor is cdx2.
13. A kit, comprising (i) a plurality of host cells according to claim 4 and (ii) one or more test molecules.
14. A method for determining whether a test molecule can upregulate RDHL expression in a cell comprising the steps of: administering said test molecule to a cell according to claim 4; and measuring the level of RDHL enzymatic activity, wherein an increase in RDHL activity is indicative that said test molecule upregulates RDHL expression.
15. The method according to claim 14, further comprising administering a retinoid receptor agonist to the cell according to claim 4, and wherein said test molecule is a permissive factor therefor.
16. The method according to claim 15, wherein said retinoid receptor agonist is retinoic acid or a derivative thereof.
17. The method according to claim 14, wherein said test molecule is not a retinoid receptor agonist.
18. A method for determining whether a test molecule can upregulate RDHL, CEACAM-1 or CEACAM-5 expression in a cell comprising the steps of: administering said test molecule to a cell according to claim 4; and measuring the level of gene expression of said

RDHL, CEACAM-1 or CEACAM-5, wherein an increase in gene expression is indicative that said test molecule upregulates said RDHL, CEACAM-1 or CEACAM-5.

19. The method according to claim 18, wherein said measuring step involves determining the level of messenger RNA corresponding to said RDHL, CEACAM-1 or CEACAM-5.

5 20. The method according to claim 18, wherein said measuring step involves determining the level of protein encoded by said RDHL, CEACAM-1 or CEACAM-5 gene.

21. The host cell according to claim 4, wherein said host cell is derived from a vertebrate.

22. The host cell according to claim 4, wherein said RDHL promoter is operably linked to a reporter molecule.

10 23. A method for preventing colon polyp formation in a patient, comprising the steps of: identifying a patient having a predisposition to colon polyp formation, and administering to said patient an effective amount of the composition according to claim 1.

24. The method according to claim 23, wherein said composition stimulates expression of a gene selected from the group consisting of RDHL, CEACAM-1 and CEACAM-5 in said
15 patient.

25. A method for preventing colon polyp formation in a patient, comprising the steps of: identifying a patient having a predisposition to colon polyp formation, and administering to said patient an effective amount of a composition comprising a retinoid receptor antagonist.

26. The method according to claim 25, wherein said composition stimulates expression of
20 a gene selected from the group consisting of RDHL, CEACAM-1 and CEACAM-5 in said patient.

27. A method for preventing colon tumor formation in a patient, comprising the steps of: identifying a patient having colon polyps or a predisposition to colon tumor formation, and administering to said patient an effective amount of the composition according to claim 1,

and observing (i) a decreased amount of colon polyps in said patient, or (ii) lack of increase in the amount of colon polyps in said patient after predetermined amount of time.

28. The method according to claim 27, wherein said composition stimulates expression of a gene selected from the group consisting of RDHL, CEACAM-1 and CEACAM-5 in said
- 5 patient.
29. An isolated DNA molecule comprising an RDHL promoter.
30. A vector comprising the DNA molecule according to claim 29.